

WHAT IS CLAIMED IS:

1. An ink jet printing apparatus comprising:
a carriage mounted with a printing head for ejecting
5 ink and for scanning the printing head in a main scanning
direction;
suction means for sucking ink from the printing head;
capping means for performing a cap closing operation
in which an ejection port surface of the printing head is
10 covered with a cap member when said suction means sucks
ink from the printing head and performing a cap opening
operation in which the cap member is separated from the
ejection port surface after suction by said suction means;
and
15 cap opening help means performing a cap opening help
operation that facilitates the cap opening operation, when
said capping means performs the cap opening operation.

2. An ink jet printing apparatus as claimed in claim
20 1, further comprising cap opening operation detecting means
for detecting whether the cap opening operation by said
capping means can be performed or not,
wherein said cap opening help means performs the cap
opening help operation if said cap opening operation
25 detecting means detects that the cap opening operation by
said capping means can be performed.

3. An ink jet printing apparatus as claimed in claim 1, wherein the cap opening and cap closing operations by said capping means are performed by means of moving of the carriage in the main scanning direction.

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4. An ink jet printing apparatus as claimed in claim 2, wherein said cap opening operation detecting means detects whether said carriage can move or not.

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5. An ink jet printing apparatus as claimed in claim 4, wherein said cap opening operation detecting means includes means for detecting a moving distance of said carriage by means of an encoder detecting a position of said carriage.

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6. An ink jet printing apparatus as claimed in claim 4, wherein said cap opening operation detecting means includes means for detecting a value per unit of time of current flowing in a power source for driving said carriage.

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7. An ink jet printing apparatus as claimed in claim 4, wherein said cap opening operation detecting means includes means for detecting whether a value per unit of time of current flowing in a power source for driving said carriage is more than a predetermined value and the value more than the predetermined value continues for a predetermined time.

8. An ink jet printing apparatus as claimed in claim 1, wherein said cap opening help means includes means for stopping the cap member at the printing head for a 5 predetermined time.

9. An ink jet printing apparatus as claimed in claim 1, wherein said cap opening help means includes means for performing a micro-reciprocating motion of said carriage 10 in the main scanning direction.

10. An ink jet printing apparatus as claimed in claim 1, wherein said cap opening help means includes means for causing predetermined positive pressure inside the cap 15 member for a predetermined time.

11. An ink jet printing apparatus as claimed in claim 1, wherein said cap opening help means has a combination 20 of opening help means for stopping the cap member at the printing head for a predetermined time, opening help means for performing a micro-reciprocating motion of said carriage in the main scanning direction, and opening help means for causing predetermined positive pressure inside the cap member for a predetermined time.

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12. An ink jet printing apparatus as claimed in claim 1, wherein said cap opening operation detecting means is

means of a combination of detecting means for detecting a value per unit of time of current flowing in a power source for driving said carriage, detecting means for detecting whether a value per unit of time of current flowing in a 5 power source for driving said carriage is more than a predetermined value and the value more than the predetermined value continues for a predetermined time, and detecting means for detecting a moving distance of said carriage by means of an encoder detecting a position of 10 said carriage.